

Tow Initiative Scan Tour

Still Going !!!



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Tow Initiative Scanning Tour

- I-95 Corridor Coalition Funded Project
- Purpose:
 - Develop, Organize and Execute a Scanning Tour of States' Towing Programs.
 - Prepare a Best Practices Analysis
 - Prepare a Final Report of new towing procedures and approaches.

Tow Initiative Scanning Tour

- Florida Turnpike - RISC Program
- Hudson Valley TMC - NYSDOT Parkway Towing (actually run by NYSP in this region) and NYSTA Towing Programs
- Maryland Transportation Authority
- TRAA Location in NC - Industry perspective.

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Tow Initiative Scanning Tour

- Tour will be done the week of 9/25/2006.
- Presentations and Final Copies complete in November 2006.
- Can work through the Executive Highway Safety Committee to discuss new approaches for NC.

Economic Impacts of Incidents in NC

Will he ever sit down !!!!!

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Presentation Outline

- Why Incident Management?
- Today's Incident Management & Traveler Information Program
- Economic Cost of Incidents Research Project
- Incident Management Issues

...in North Carolina

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Events Affecting Traffic = “Incidents”

	<u>Unplanned</u>	<u>Planned</u>
Traffic ↑	<u>Evacuations</u> <ul style="list-style-type: none"> • Terrorism • Hurricanes • Nuclear 	<u>Special Events</u> <ul style="list-style-type: none"> • Sports • Festivals • Fairs
Capacity ↓	<u>Nature</u> <ul style="list-style-type: none"> • Floods • Snow & Ice • Rockslides • Sinkholes • Earthquakes • Fires <u>Accidents</u> <ul style="list-style-type: none"> • Day to Day • HazMat <u>Other Bad Things</u> <ul style="list-style-type: none"> • Road Failure • Bridge Collapse • Bomb Threats 	<u>Special Events</u> <ul style="list-style-type: none"> • Motorcades • Parades • Marathons • Law Enforcement Check Points <u>Work Zones</u> <ul style="list-style-type: none"> • Maintenance • Construction

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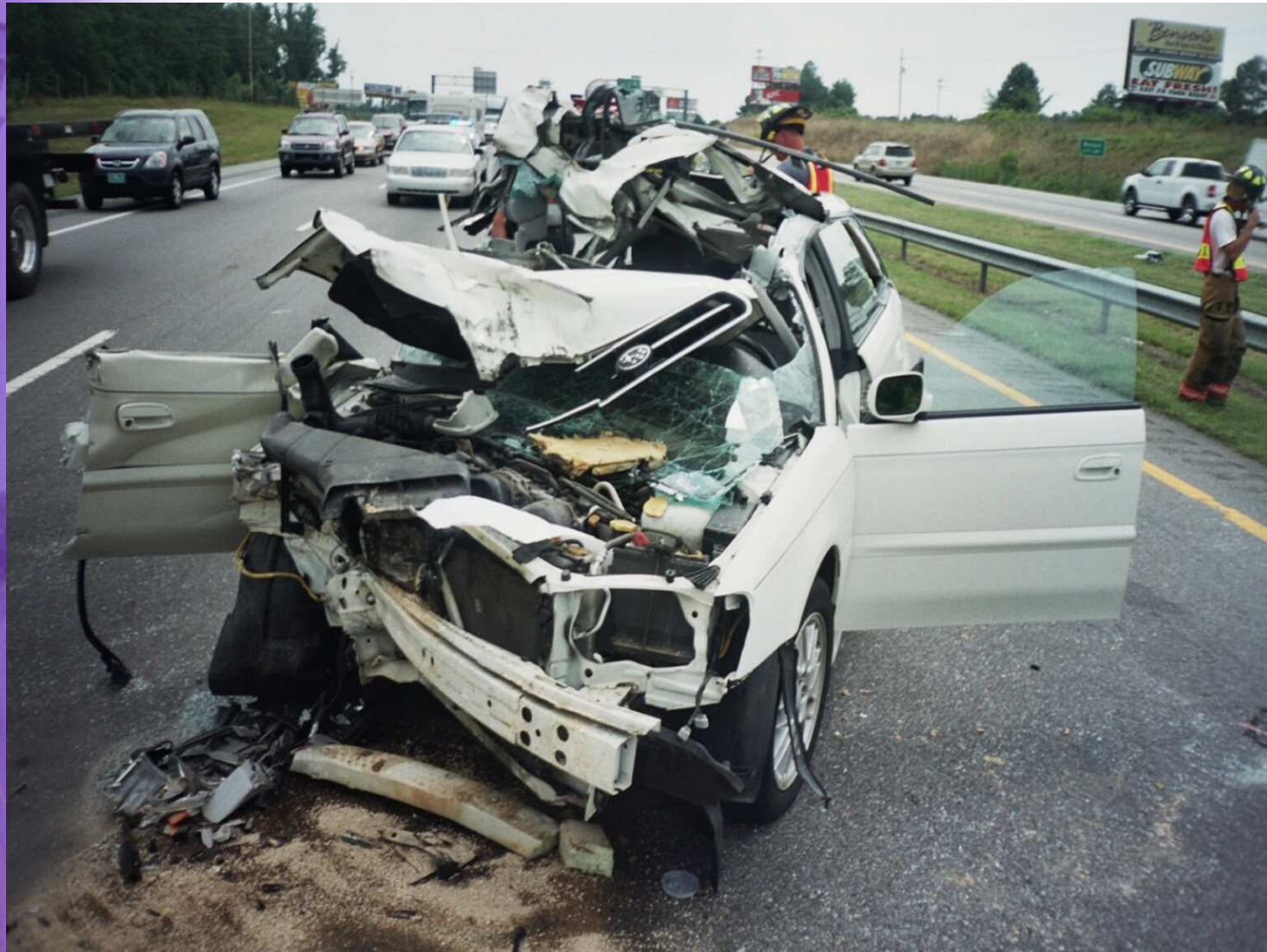




Why Do We Care?

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Incidents Cause Secondary Crashes

- Nearly 30% of all crashes
- Approximately 18% of freeway fatalities

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Incidents Cause Delay

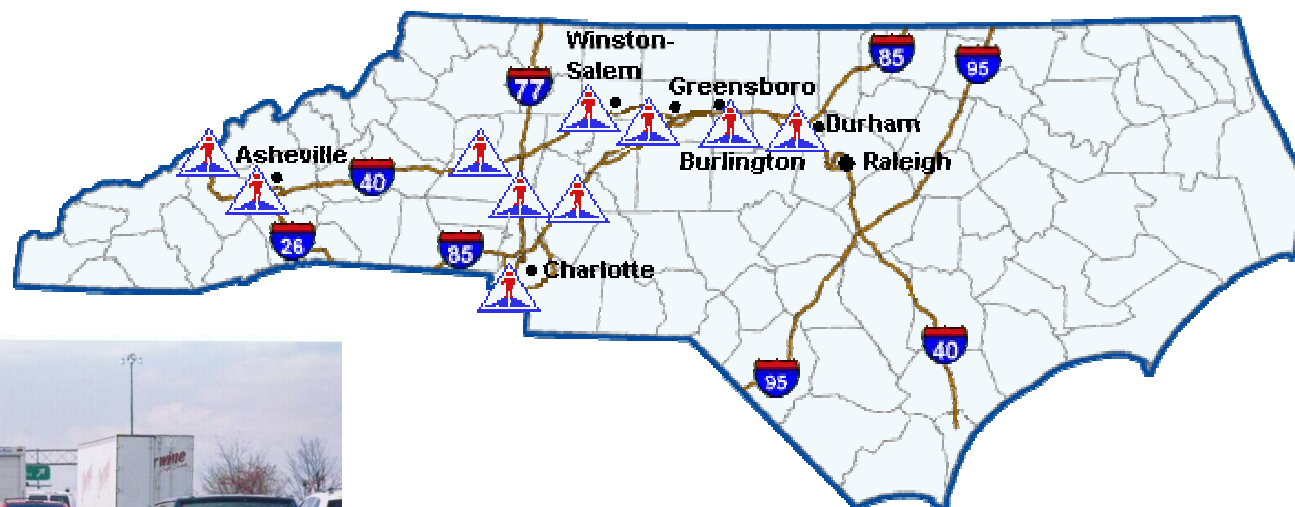
Lanes per Direction	Lanes Closed	% Closed	% Capacity Loss
3	Shoulder	0	15
3	1	33	50
3	2	67	79

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Incident Management Assistance Patrols (IMAP)

- Patrol in 10 areas



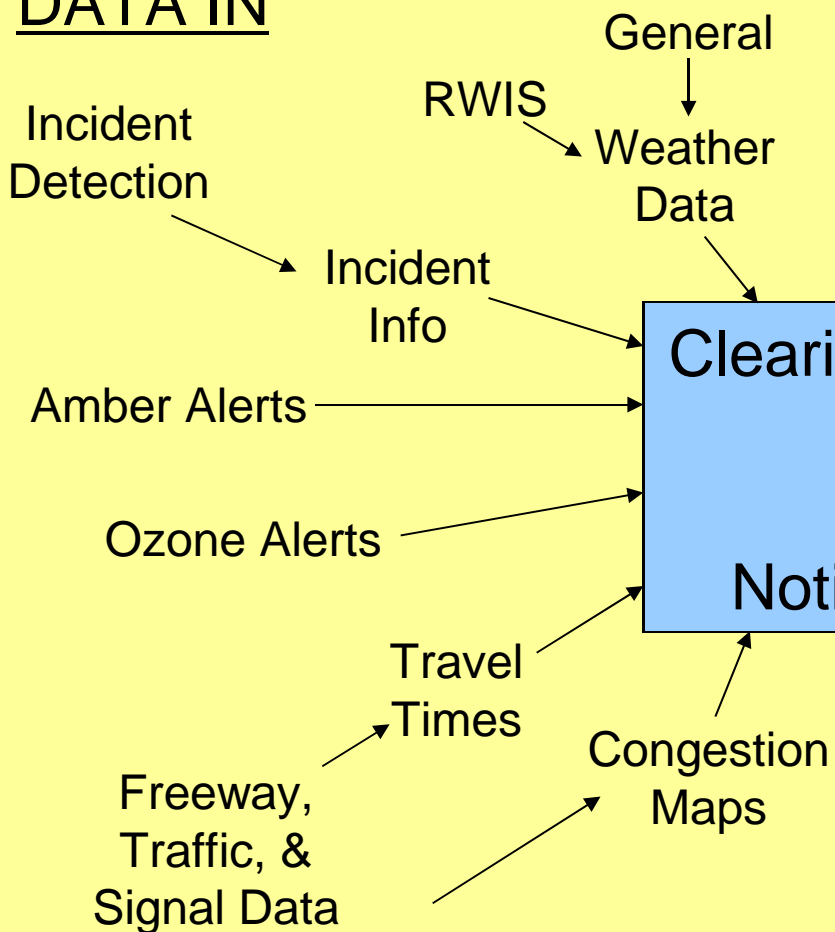
- 552 CL miles covered

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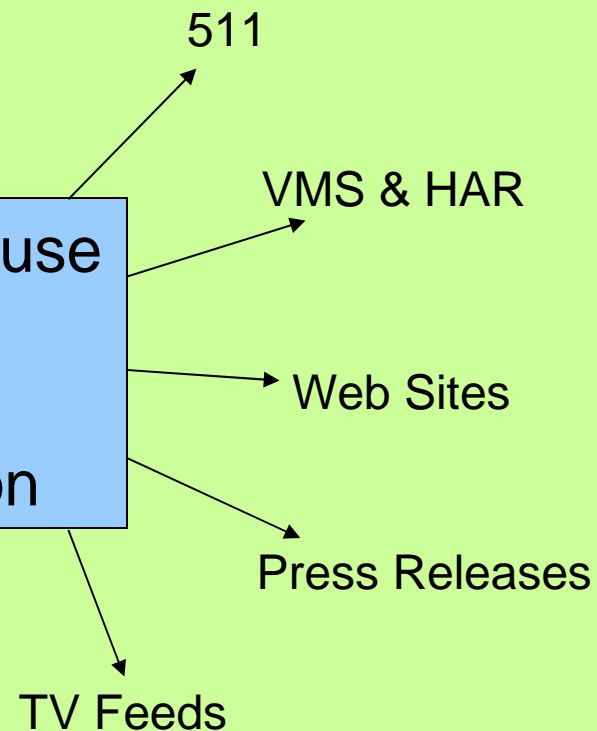


Travel Information

DATA IN



INFO OUT



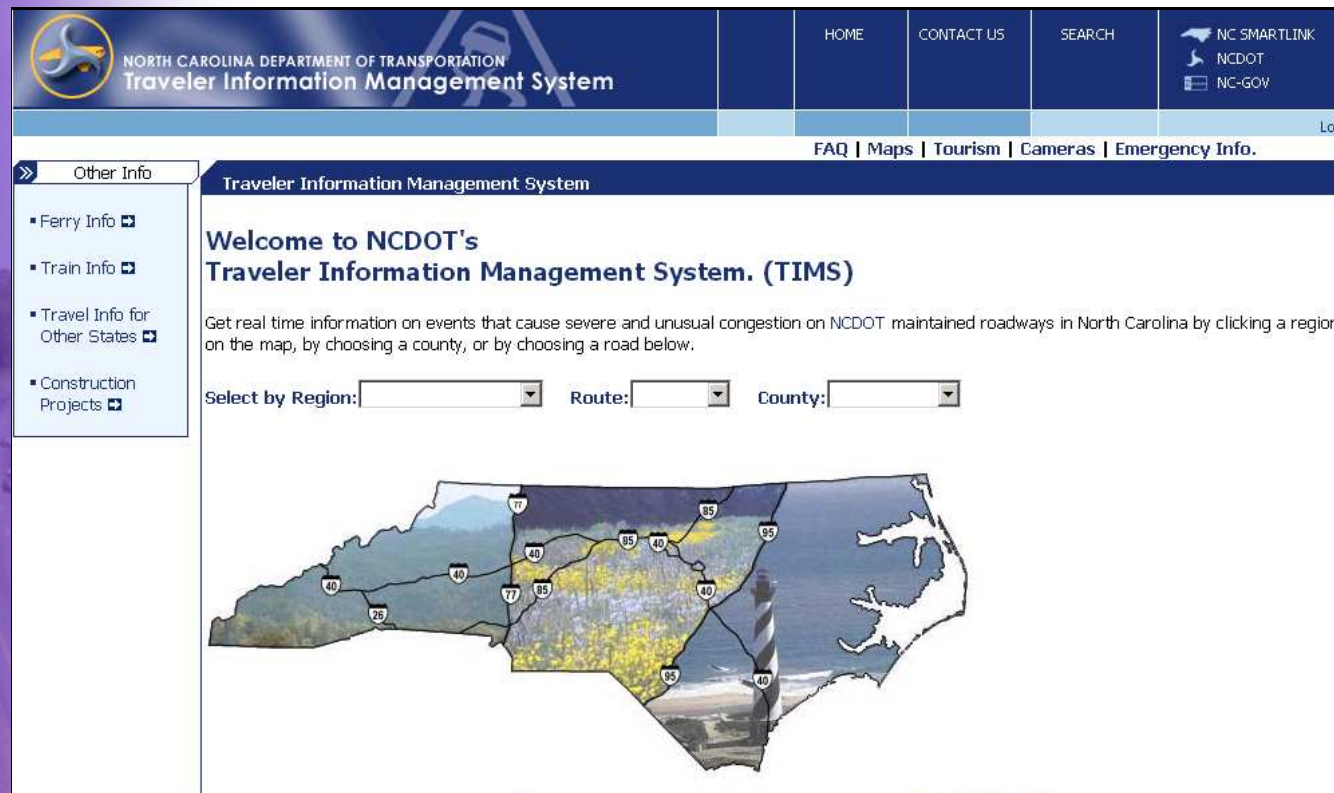
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Travel Information Website (TIMS)

“Real Time” Travel Information



The screenshot shows the homepage of the North Carolina Department of Transportation's Traveler Information Management System (TIMS). The header features the NCDOT logo and navigation links: HOME, CONTACT US, SEARCH, NC SMARTLINK, NCDOT, and NC-GOV. A secondary navigation bar includes links for FAQ, Maps, Tourism, Cameras, and Emergency Info. On the left, a sidebar menu lists 'Other Info' categories: Ferry Info, Train Info, Travel Info for Other States, and Construction Projects. The main content area welcomes users to NCDOT's TIMS and provides instructions on how to get real-time information on events causing congestion. It includes three dropdown menus for 'Select by Region:', 'Route:', and 'County:'. Below these is a map of North Carolina with major highways (40, 77, 85, 95) highlighted in yellow to indicate areas of interest or congestion. The map also shows the coastline and major cities.

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Statewide Incident Reporting System

Includes

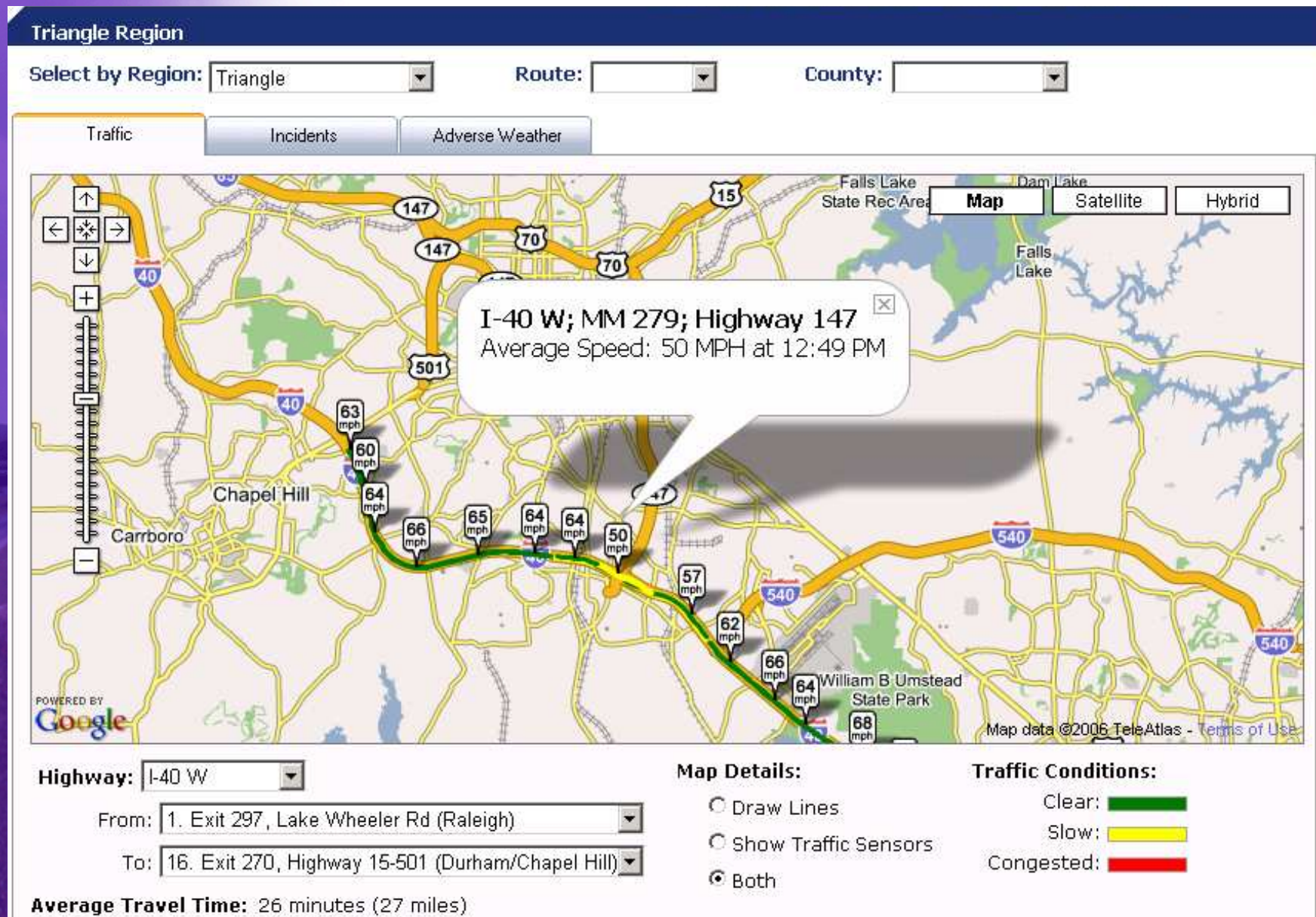
- Vehicle Accidents
- Disabled Vehicles
- Construction
- Maintenance
- Congestion
- Weather Events
- Special Events

Logistics

- Field Entered (1100)
- Sends Notifications, including Media (500)
- Designed by DOT IT

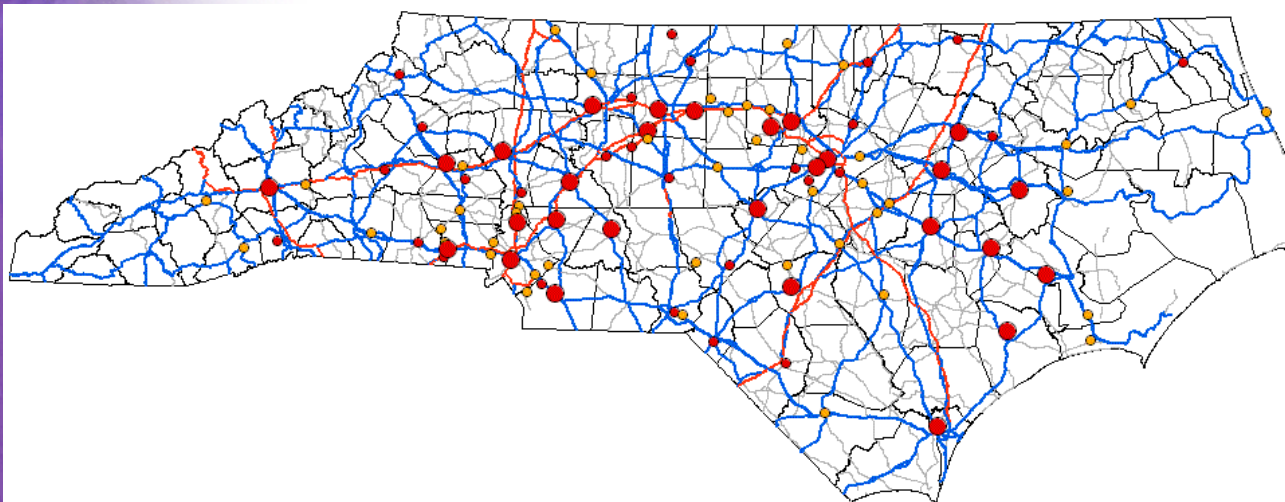
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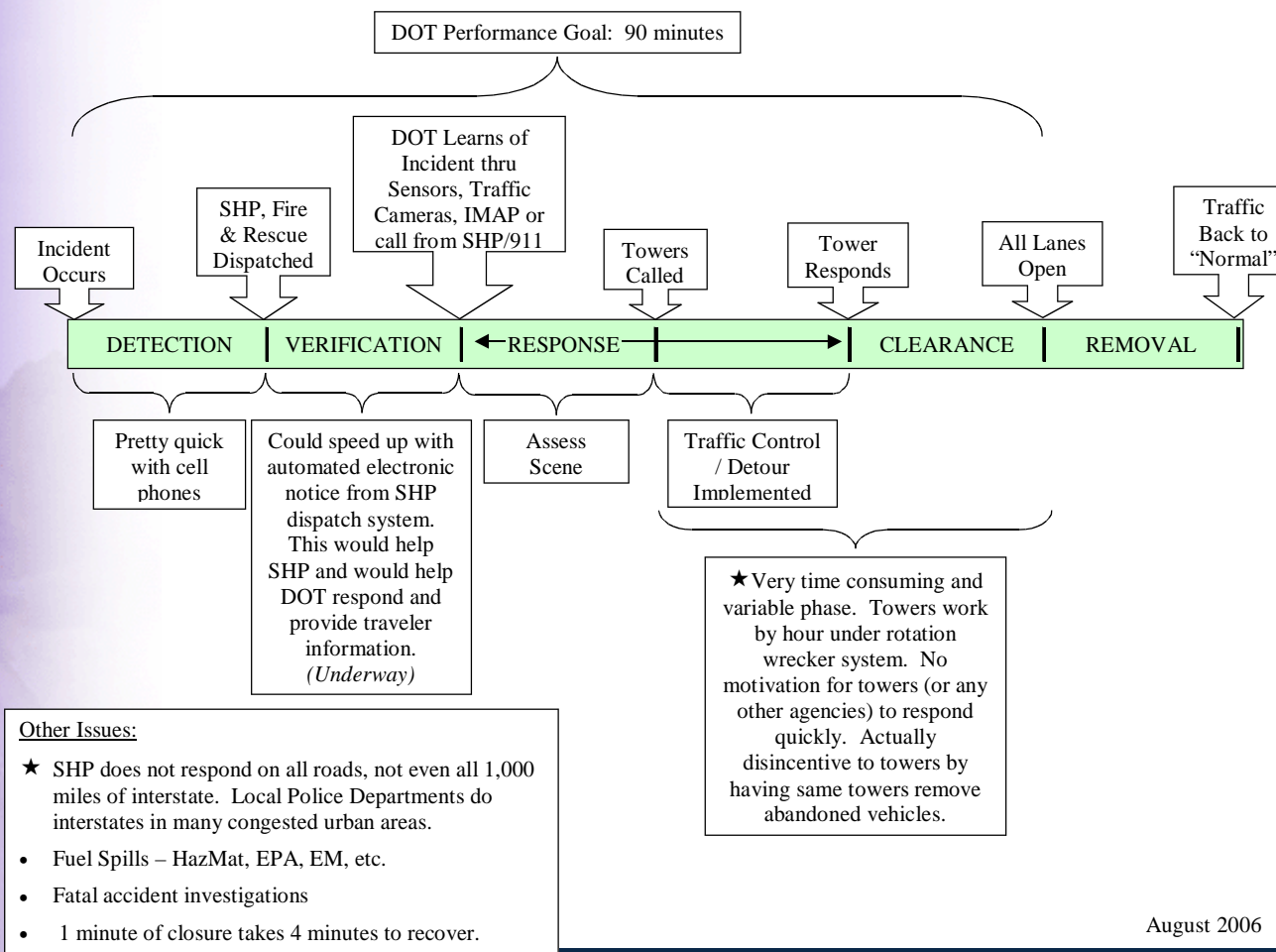




- Cover 13,406 miles of Roadway
- 1.2 M calls in 2 years
- +/- 1000 calls per day



Highway Incident Response



August 2006

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So How Can We Do Better?

- Not a DOT-only effort to improve IM & Traveler Info
- Need other agencies to buy-in and work together
- How to motivate them to do so???

\$\$\$ Show Me The Money \$\$\$

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How Much Does A Collision Like This Cost?



Traffic Wrecks in NC

- **Annual Cost of Motor Vehicle Crashes to N.C.'s Economy**
- **\$9,445,291,333.00**
- Average Cost Per Crash = \$34,812.00
- Average cost Per Person = \$1,137.00
- Average Cost per Vehicle = \$1,264.00
- Average Cost/100 Miles Traveled = \$10.08
- Monetary value based on the *severity of crashes* taken from report forms submitted by law enforcement officers when they investigate crashes. Based on 2003 Figures.

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Traffic Wrecks in NC

	Fatal Injury	A Injury	B Injury	C Injury	Property Damage Only
Medical _a	\$19,285	\$15,134	\$3,313	\$1,777	\$141
Emergency Services _b	\$1,208	\$298	\$193	\$126	\$61
Victim Work Loss _c	\$1,068,122	\$23,587	\$7,240	\$3,501	\$383
Employer Costs _d	\$8,432	\$1,255	\$516	\$285	\$92
Traffic Delay _e	\$510	\$222	\$214	\$183	\$263
Property Damage _f	\$11,280	\$4,435	\$3,769	\$2,849	\$2,554
MONETARY COST	\$1,108,838	\$44,932	\$15,247	\$8,721	\$3,494
Quality of Life _g	\$1,952,263	\$106,293	\$23,840	\$9,928	\$521
COMPREHENSIVE COST	\$3,061,101	\$151,225	\$39,086	\$18,649	\$4,015

- a) Medical includes hospital, physician, rehabilitation, prescription and related cost.
- b) Emergency Service include police, fire, ambulance and helicopter services.
- c) Victim Work Loss includes wages, fringe benefits and household work.
- d) Employer Cost values time, the extra work and distractions for supervisors and coworkers that injuries cause.
- e) Traffic Delay values the time lost in traffic jams caused by crashes.
- f) Property Damage is the cost to repair or replace damaged vehicles and property.
- g) Quality of Life values the pain, suffering and quality of life that the family loses because of a death or injury.

Source: Ted Miller, Rebecca Spicer, Children's Safety Network Economics and Insurance Resource Center, PIRE, Calverton, MD; 2002

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Traffic Congestion in NC

- Costs \$775 million annually
- Costs motorists \$426 million annually
- What is cost of Incidents to NC commercial businesses?

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Study Methodology

Data Collection

Divide NC into regions



Review employment industry sectors in the region



Interview representative companies (N~30)



Select those most likely to be affected by travel uncertainty



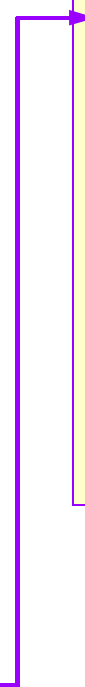
Develop case studies, conduct meetings/focus groups N~10

Data Manipulation

Identify & quantify incident congestion impacts on selected companies



Assess costs to NC businesses & economic growth



Firms Include

- A Southern Season
- Bayer Healthcare
- Blue Ridge Paper Products
- Century Furniture
- Food Lion
- Dell Incorporated
- IBM
- Phillip Morris, USA
- US Postal Service
- Walmart Distribution Center
- Winn-Dixie Logistics

Yield: Realization that
Transportation Affects
Major Businesses

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Asking Them About

- Company Attributes
 - Size, Value, Expansion?
- Product Attributes
 - Types, Shipment Distribution, Operations
- Costs of Incident Congestion
 - Average Unexpected Delays - in & out
- Cost Saving Behaviors
 - Inventory, Driver/Vehicle, Market Area, JIT
 - Travel Info, Coping Strategies
 - LOS Satisfaction, Feedback

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Early Results: Phone Interviews

Firm Phone Interviews - Key Results								
Firm ID	Recent Unexpected Delay	Negative Consequences	Primary Incoming Shipments Per Day	Primary Outgoing Shipments Per Day	Shipment Windows	On-time % Incoming	On-time % Outgoing	Shipping Reliability Highly Valued
1	Yes	=Driver/Veh Costs Reputation Suffered	NA	NA	Yes	99.8	99.8	No
2	Yes	None	20	10	No	NA	99.0	Yes
3	No	NA	12	9	No	98.0	98.0	Yes
4	Yes	=Driver/Veh Costs Production Costs	40	17	No	97.0	98.0	Yes
5	No	NA	NA	NA	NA	NA	NA	NA
6	Yes	None	119	119	No	98.0	98.0	Yes
7	Yes	=Driver/Veh Costs	40	40	Yes	100.0	100.0	Yes
8	Yes	=Driver/Veh Costs Production Costs	137*	137*	Yes**	100.0	100.0	Yes
9	No	NA	100	100	Yes**	100.0	100.0	Yes
10	Yes	=Driver/Veh Costs Production Costs Reputation Suffered Inventory Costs	62	103	Yes**	96.0	96.0	Yes
11	No	NA	22	40	No	100.0	96.0-100.0	Yes
12	Yes	=Driver/Veh Costs Production Costs	176	136	No	NA	99.8	Yes

* Multiple facilities.
** Incoming or outgoing only, not both.

Early Results: Face-to-Face Interviews

Incoming

Outgoing

Firm ID	Shipment % Within NC	Avg Unexpected Delay	% Shipments w/o Unexpected Delay	Cost to Firm	Willingness to Pay for Improvement	Avg Unexpected Delay	% Shipments w/o Unexpected Delay	Cost to Firm	Willingness to Pay for Improvement
2	30	1.5 min	99	\$0	\$0	NA	100	\$0	NA
3	10	24 hrs	96	\$2,400	\$36,000	24 hrs	94	\$120,000	Minimal
4	20	60 min	90	\$150,000	\$150,500	45 min	85	\$0	\$0

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Early Results

- Based on 12 telephone interviews, the majority of firms:

- Hire shipping companies to handle most or all incoming and outgoing shipments

Thus, we should add more carrier firms to get better info on delays, especially for outgoing shipments

- Experience minimal unexpected delay
- DO highly value shipment reliability

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Early Results

- Based on 3 face-to-face interviews:
 - Firms maintain or ask suppliers to maintain levels of inventory to reduce supply disruption costs
 - One firm suggested more rest stops on interstates would help drivers and reduce delay
 - Another firm stated that lighted information signs on interstates and highways has improved traffic communication
 - Firms are NOT aware of NCSmartLink or 511

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Other IM Issues in NC

- Towing
 - Paid by the hour and by owner
- Haz Mat
 - Time Consuming Clean-Up
 - Is 20 gal of diesel really Haz Mat?
- IMAP Expansion
 - Warrants?

Bottom Line

Improved Incident Management Benefits

- Increased Traveler Mobility & Safety...yes!
- Reduced Costs to Businesses...yes...
but just how much??? Stay Tuned!

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